

PROCEEDINGS
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ON TEN NEW CENTIPEDS FROM MEXICO
AND VENEZUELA.

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The specimens upon which seven of the new forms herein described are based were collected by Harry Hoogstraal in the state of Michoacan, on his "Fourth Mexican Biological Expedition." The material was secured at and near Tancitaro and Apatzingan. The types of the other three species were taken at quarantine, two at Laredo, Texas, with orchids from Vera Cruz, Mexico, and one at Hoboken, New Jersey, with Cattleya from Venezuela. The specimens taken at quarantine were among material sent to me for identification by Mr. C. T. W. Muesebeck of the U. S. Bureau of Entomology and Plant Quarantine. All types are retained in the author's collection.

Scolopendra chlora, new species.

In the smaller type the dorsum, including the head, dark green, the antennae similar, with venter and legs a lighter green. In the larger type the color olive brown, with caudal border of plates olive.

Head without sulci. Antennae composed of 24 articles of which the first four are glabrous.

Prosternal teeth 4 + 4, but the 2 innermost on each side fused, separate only at tips, the two outer free. Prosternum anteriorly with a short median sulcus which is branched at anterior end.

First dorsal plate with a transverse curved impression as in *viridis*, etc.; paired sulci diverging forward and terminating on the sulcus.

Dorsal plates laterally margined from about the tenth plate caudad. Last tergite with a median sulcus.

Paired sulci on second sternite extending caudad of middle, and complete on third and following. Last sternite strongly narrowed caudad, with posterior margin excavated at middle.

First legs with 2 tarsal spines, others to and including the twentieth with a single tarsal spine.

Coxopleurae of last segment with distinct caudal processes bearing 6 spines; caudal margin with 2 spines.

Femur of anal legs bearing about 17 ventral spines in 4 rows; on mesal surface above with 5 spines in 2 series; distal process bearing 4 spines.

Length, 83 and 117 mm.

Locality—Mexico: Michoacan, above Apatzingan, 2000 ft., under stones, two specimens, holotype and paratype, taken August 21 and 22, 1941, by H. Hoogstraal.

This species seems to be most nearly related to *S. viridis* Say. It differs from the latter in the more numerous spines of the anal legs with the caudal process of femur bearing 4 spines instead of 2; in having a median sulcus impressed on anterior part of prosternum; and in having the caudal margin of last sternite distinctly incurved or excavated instead of truncate.

Scolopendra pomacea michoacana, subsp. nov.

All specimens in the present collection differ from what seems to be the typical *pomacea* in having a spine at dorsodistal angle of femur, patella and tibia of first pairs of legs in addition to the 2 normally present on the first tarsal joint (one dorsodistal and one ventral).

The head wholly lacks sulci and the pair of posterior impressions mentioned by Pocock as present on his specimens of *pomacea*.

Length, 50–55 mm.

Locality—Mexico: Michoacan, Tancitaro, elevation 6000 ft., under rocks and logs, holotype and numerous paratypes taken June 23, 1941, by H. Hoogstraal.

Scolopendra mima, new species.

Related to the Venezuelan species *S. armata*. It differs in color in having the head and first and last tergite abruptly paler instead of darker than the rest of the dorsum which is olive. Antennae and legs yellowish.

Head with paired sulci extending over entire length.

First dorsal plate with transverse semicircular sulcus. Prosternal teeth fused on each side excepting outermost which is free. Prosternum differing from that of *armata*, in having anteriorly a distinct median longitudinal sulcus which extends back to a sharply impressed transverse sulcus.

Dorsal plates laterally margined from about 15th to last plate. Last tergite with caudal margin obtuse, the angle rounded, not ridged or sulcate; with a sub-circular depression in front of caudal angle.

Sternites with paired sulci indicated only on anterior border, not complete on any and thus differing from *armata*.

Differing from *armata* also in the spining of the legs, of which the first pair have only a single tarsal spine, and the twentieth lacks ventral spines on the femur. Femur and patella with a dorsal spine at distal end on both 19th and 20th pairs, the femur of the 20th leg on one side also with an additional dorsal spine near the first one. Anal legs lost in type.

Coxopleural process on each side with 4 spines at end; a single spine on adjacent caudal margin.

Length, 72 mm.

Locality—Taken at quarantine at Hoboken, New Jersey, with *Cattleya* plants from Venezuela, May 31, 1941, one specimen which has lost the anal legs.

***Simoleptus michoacanus*, new species.**

Cephalic plate rather short, sides convex and caudal margin straight. No frontal suture present.

Labrum divided into oblong sections by means of longitudinal or sub-longitudinal striae. Middle division transversely oblong, its margin finely pectinate as in the genotype.

Prebasal plate a little exposed at middle.

Prehensors when closed about even with anterior margin of head; joints within, and prosternum unarmed, or claw at base with indications of a minute denticle. Chitinous lines very fine, nearly complete.

First maxillae with 2 well-developed membranous lappets on each side.

Dorsal plates bisulcate.

Spiracles all circular.

Ventral pores in a band across caudal border.

Last ventral plate broad, strongly narrowed caudad, trapeziform. Coxal pores (2 on each side) covered by border of sternite.

Second tarsal joint abruptly considerably more slender than the first.

Pairs of legs, 59.

Length, about 17 mm.

Locality—Mexico: Michoacan, Cerro Tancitaro, 9000 ft., under pine bark, one specimen taken by H. Hoogstraal.

***Simoleptus cruzanus*, new species.**

Head obviously longer than broad, narrowed from middle forward. Frontal suture absent. Antennae short, strongly narrowed distad. Head overlapping basal plate, the sides of which are nearly parallel.

Claws of prehensors when closed not reaching anterior end of head, slender and unarmed at base. Other joints and prosternum also unarmed. Prosternum with chitinous lines present, but very fine.

A convex area between lateral pieces of labrum very long fringed or finely pectinate; caudally, a long smooth middle sclerotized piece dorsad of this pectinate portion. Lateral pieces with the usual long pectinae.

First maxillae with membranous lappets.

Last ventral plate wide, trapeziform, covering the 2 coxal pits on each side.

Anal legs differing from those of *michoacanus* and especially those of *pauropodus* in more slender legs in which there is less difference in diameter of first and second tarsal joints.

Pairs of legs, 65.

Length, about 16 mm.

Locality—Mexico: Vera Cruz. One specimen taken at quarantine at Laredo, Texas, with orchids in baggage, June 5, 1941.

Differing from *S. paupodous* and *S. michoacanus* in not having the pre-basal plate exposed. The fringed median portion of labral area relatively much longer than in *michoacanus*.

Vulcanbius pedregalus, new species.

Dorsum brown with head and antennae darker than other parts; legs light brown.

Antennae short, composed in holotype of 40 articles. Ocelli, e. g., 1 + 3, 3, 4, or 1 + 1, 3, 5 with top ocellus or caudal ocellus of top row larger than other of series.

Prosternal teeth, 2 + 2, the line of apices gently recurved; ectal spine slender but shorter and stouter than ordinary setae.

Posterior angles of 9th, 11th and 13th dorsal plates strongly produced, those of 7th a little bowed caudad with caudal side widely convex.

Coxal pores, circular; 5, 5, 4, 4.

Ventral spines of first legs, 0, 0, 1 (0), 1, 1; of second, 0, 0, 2, 1. Ventral spines of penult legs, 0, 1, 3, 3, 2; dorsal, 0, 0, 3, 2, 2; claws 3. Ventral spines of anal legs, 0, 1, 3, 3, 1; dorsal, 0, 0, 3, 2, 1; claws 2. None of coxae armed either dorsally or laterally.

Anal legs of male slender; the dorsal process at distal end of tibiae well developed, relatively wide and short, in side view appearing much like the corresponding one in species of *Nadabius*.

Length, about 20 mm.

Locality—Mexico: Michoacan, Tancitaro Pedregal, El. 6000 ft.; male holotype taken under loose bark by H. Hoogstraal, June 23, 1941.

A female probably of this same species was taken under loose bark at Cerro Tancitaro at an elevation of 11,000 ft. on July 20, 1941. Unfortunately, it has lost all the posterior legs. The claw of the gonopod is strictly entire, with the basal spines characteristically broad and short. The antennae have only 33 articles. The specimen is smaller than the male holotype.

Genus **CERROBIUS**, new.

Articles of antennae typically fixed at 19. Prosternal teeth 2 + 2. None of dorsal plates with posterior angles produced. Coxal pores in a single series. Claw of female gonopods entire. The male characterized especially by having the first tarsal article of the penult legs greatly inflated. Anal legs in male not specially modified.

Genotype **Cerrobium tancitarus**, new species.

A related new genus, *Guerrobium*, which includes *G. pontifex* (Pocock), genotype, and *G. humberti* (Pocock), has the first tarsal joint of the anal legs inflated, with the preceding article bearing a characteristic dorsal lobe, but the penult legs are not modified. In the genus *Vulcanbius*, the tibiae of both anal and penult legs, instead of the first joint, are more or less conspicuously inflated.

Cerrobium tancitarus, new species.

General color above light brown, with the legs paler and somewhat orange distally.

Antennae short, composed of 19 short articles of which the ultimate somewhat exceeds the two preceding taken together. Ocelli typically in three series; e. g., 1 + 3, 3, 2; single ocellus and caudal one of top series, largest, some of anterior ones very small.

Prosternal teeth small and pale, 2 + 2; median sinus relatively wide, U-shaped. Posterior angles of none of the dorsal plates produced.

Coxal pores small and round; 2, 3, 3, 3.

Ventral spines of first legs, 0, 0, 0, 0, 1; of the second, 0, 0, 1, 2, 1. Ventral spines of the penult legs, 0, 1, 3, 3, 1; dorsal, 0, 0, 3, 1, 1; claws, 3. Ventral spines of anal legs, 0, 1, 3, 2, 1; dorsal, 0, 0, 1, 1, 0; claws 2. None of posterior coxae armed either dorsally or laterally.

Claw of female gonopods strictly entire; basal spines 2 + 2.

In the male the first tarsal joint of the penult legs is strongly and evenly inflated obviously exceeding in diameter the preceding article and very greatly exceeding that of the second tarsal article.

Length, about 9 mm.

Locality—Mexico: Michoacan, Cerro Tancitaro, July 20, 1941, el. 11,000 ft., male holotype, female allotype and four paratypes taken under bark by H. Hoogstraal.

Lithobius michoacanus, new species.

Dorsum in general brown, the head and antennae chestnut.

Posterior angles of 9th, 11th and 13th dorsal plates produced, the processes of the 9th rather short or weak.

Head with marginal break distinct.

Articles of antennae, 28.

Ocelli in 4 or 5 series; e. g., 1 + 2, 5, 6, 5, 2 or 1 + 5, 6, 4, 2, the two ocelli of the bottom series widely separated from each other in the holotype. The single ocellus not enlarged or specially differentiated.

Prosternal teeth 6 + 7 in holotype, even the ectal seta bristle-like.

Coxal pores 5, 6, 6, 5, transversely more or less elongate.

Ventral spines of first legs, 0, 0, 2, 3, 2.

Dorsal spines of penult legs, 1, 0, 3, 1, 1; ventral, 0, 1, 3, 3, 2; one small accessory claw. Last 5 pairs of coxae dorsally armed, last 2 also laterally armed.

Gonopods of female with claw tripartite; basal spines 2 + 2.

Length, 17 mm.

Locality—Mexico: Michoacan, Cerro Tancitaro, July 20, 1941, female holotype taken at 11,000 ft., under bark, by H. Hoogstraal.

Genus **CRUZOBIUS**, new genus.

A genus apparently nearest to *Arkansobius* of the Watobiidae, but having no ventral spine on tibia of legs, most legs of middle, however, bearing a slender, almost setiform dorsal spine at distal end of tibia on anterior side.

The articles of antennae 20.

Tarsi of all legs unarticulate excepting in last two pairs where they are biarticulate. Tibia in anal legs of male bearing a lobe at distal end above, this lobe resembling that found on penult legs of males in *Nampabius*.

Genotype *Cruzobius verus*, new species.

The genera which I refer to the Watobiidae, distinguished from Lithobiidae, e. g., by having spiracles on the 8th segment, may be separated by means of the following key:

KEY TO GENERA OF *Watobiidae*.

1. (4) Articles of antennae 20 to 22.....2
2. Most legs with a ventral spine at distal end of tibia in addition to the antero-dorsal one..... *Arkansobius*
 —None of the legs with a ventral tibial spine.....3
3. Posterior angles of 9th, 11th and 13th dorsal plates produced; penult legs in male with tibia strongly crassate and with a low, heel-like dorsal elevation at distal end; a similar not on anal legs of male.....*Watobius*
 Posterior angles of none of the dorsal plates produced; penult legs of male with tibia normal, neither specially crassate nor bearing a dorsal lobe; tibia of anal legs of male with a peg-like dorsal lobe.....*Cruzobius*
4. (1) Articles of antennae numerous (e. g., 50 in the genotype).....
Elattobius

Cruzobius verus, new species.

Dorsum and antennae brown, the frontal region of head and the legs paler.

Antennae short; articles 20.

Ocelli typically 1, 3, the single ocellus largest and lying above the caudal ocellus of the series of 3.

Prosternal teeth 2 + 2.

Posterior angles of none of the dorsal plates produced, the caudal margin of 9th, 11th and 13th straight.

Tarsi of penult and anal legs biarticulate, those of the other legs not divided. All legs with 3 claws.

Tibia of anal leg in male with dorsal surface at distal end oblique, bearing a peg-like process which is distally obliquely truncate.

Length, about 6.5 mm.

Locality—Taken at quarantine at Laredo, Texas, with orchids brought from Vera Cruz, Mexico, June 5, 1941. One male.

Scutigera tancitarona, new species.

Dorsum marked with three longitudinal stripes of bluish-black color, one along each lateral border and one over middle. The median stripe is continuous, embracing the stoma saddle in front of which it is constricted

and then expanding forward on each tergite in a subelliptic form, with a narrow transverse line connecting this expanded portion with the lateral band on each side. Legs annulate, bearing 2 rather broad annuli on each of the third, fourth and fifth joints; tarsi more or less ferruginous yellow. Antennae also ferruginous.

Articles of antennae relatively decidedly longer than usual in species of the genus, e. g., in *S. coleoprata* and *S. chichivaca*, but still shorter than broad. First division consisting of 55 articles; the second of about 160.

Tergites incurved at middle behind with stoma relatively short and projecting but slightly into the excavation. Stoma saddles broad and moderately elevated. Surface of tergites bearing numerous setae of the usual character, these rather evenly distributed.

Last tergite with caudal margin evenly convex, not at all incurved or notched at middle.

First tarsus I composed of 14 articles, the second of 32. First tarsus II composed of 13 articles, the second of 33; the tarsal pegs on alternate segments beginning on 10th and ending on 28th. First tarsus III consisting of 13 articles, the second of 29. First tarsus with spines at distal end.

The gonopods of the female parallel out to base of terminal claws, the interval separating them narrow.

Length, about 16 mm.

Locality—Mexico: Michoacan, Tancitaro; a female (holotype) and male (allotype) taken by H. Hoogstraal, August 1, 1941.

